



# BLASTN 2.2.7 [Jan-02-2004]

RID: 1073687688-1793-130864213466.BLASTQ4

**Database:** All GenBank+EMBL+DDBJ+PDB sequences (but no EST, STS, GSS, or phase 0, 1 or 2 HTGS sequences)  
2,018,459 sequences; 9,721,858,998 total letters

If you have any problems or questions with the results of this search please refer to the [BLAST FAQs](#)

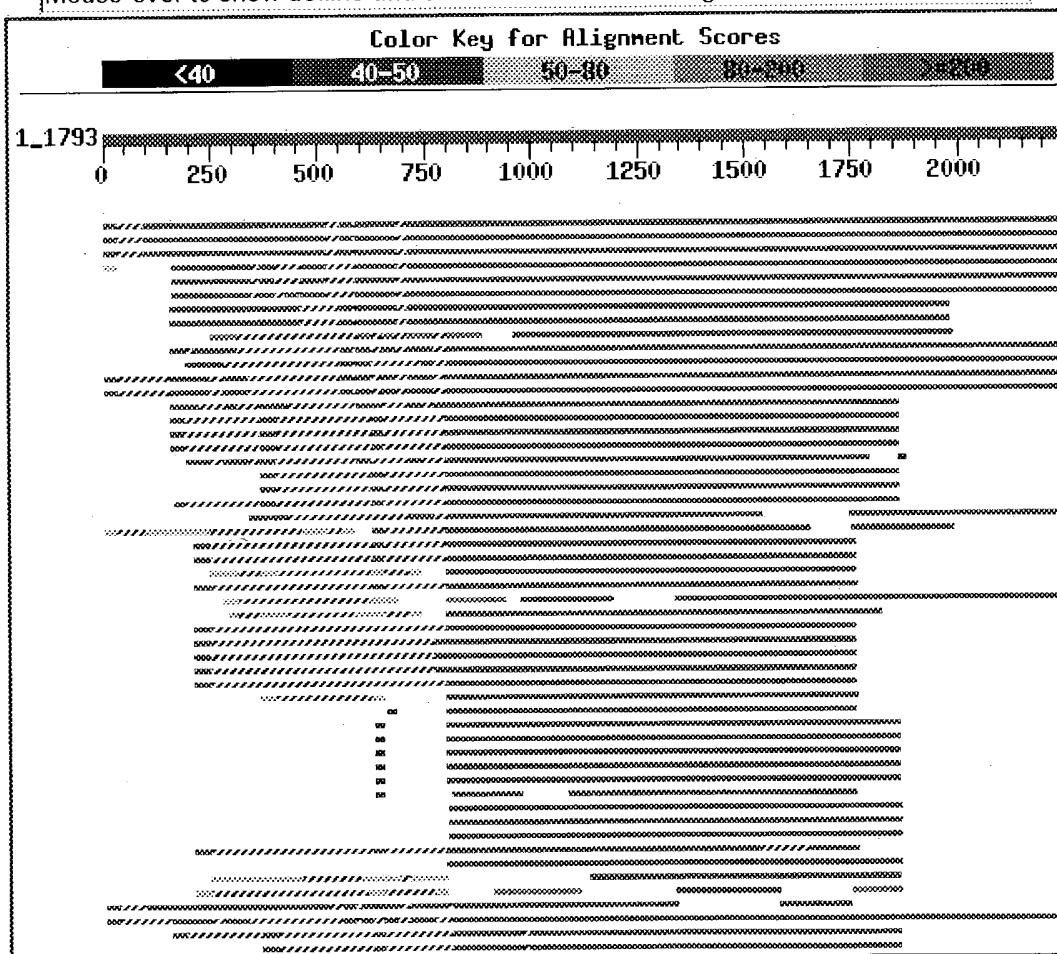
[Taxonomy reports](#)





































Query=

(2237 letters)






## Distribution of 459 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments



Sequences producing significant alignments:			Score	E	
			(bits)	Value	
gi 4996893 gb AF065164.2 AF065164	Homo sapiens hyperpolariz...	2636	0.0		98
gi 4775348 emb AJ012582.1 HSA012582	Homo sapiens mRNA for h...	2630	0.0		
gi 21359847 ref NM_001194.2	Homo sapiens hyperpolarization...	2630	0.0		
gi 27476161 gb AC021413.16	Homo sapiens chromosome 15, clo...	2296	0.0		
gi 28913160 gb AC139426.2	Homo sapiens chromosome 15, clon...	2279	0.0		
gi 27901866 gb AC135731.6	Homo sapiens chromosome 15, clon...	2279	0.0		
gi 24464597 gb BC039619.1	Homo sapiens hyperpolarization a...	2128	0.0		
gi 3168875 gb AF064877.1 AF064877	Homo sapiens ion channel ...	2094	0.0		
gi 4206063 gb AF064851.1 AF064851	Homo sapiens map 19p13.3;...	1860	0.0		
gi 34862344 ref XM_343170.1	Rattus norvegicus hyperpolariz...	1669	0.0		
gi 7407646 gb AF247451.1	Rattus norvegicus hyperpolarizati...	1661	0.0		
gi 3242239 emb AJ225122.1 MMJ225122	Mus musculus mRNA for h...	1542	0.0		
gi 6680188 ref NM_008226.1	Mus musculus hyperpolarization-...	1542	0.0		
gi 5708066 dbj AB022927.2	Oryctolagus cuniculus HAC4mRNA ...	1391	0.0		
gi 5734515 emb AJ238850.1 HSA238850	Homo sapiens mRNA for h...	1308	0.0		
gi 4775352 emb AJ132429.1 HSA132429	Homo sapiens mRNA for h...	1308	0.0		
gi 4885406 ref NM_005477.1	Homo sapiens hyperpolarization ...	1308	0.0		
gi 3168867 gb AF064873.1 AF064873	Mus musculus ion channel ...	1252	0.0		
gi 7407650 gb AF247453.1	Rattus norvegicus hyperpolarizati...	1204	0.0		
gi 25742570 ref NM_021658.1	Rattus norvegicus hyperpolariz...	1204	0.0		
gi 38089857 ref XM_287905.2	Mus musculus similar to hyperp...	1181	0.0		
gi 29169290 gb AY221752.1	Cavia porcellus hyperpolarizatio...	1065	0.0		
gi 3168869 gb AF064874.1 AF064874	Mus musculus ion channel ...	913	0.0		
gi 28629107 gb AF438550.1	Homo sapiens hyperpolarization a...	851	0.0		
gi 12652638 gb BC000066.1 BC000066	Homo sapiens, clone IMAG...	847	0.0		
gi 38327036 ref NM_020897.1	Homo sapiens hyperpolarization...	847	0.0		
gi 7959336 dbj AB040968.1	Homo sapiens mRNA for KIAA1535 p...	845	0.0		
gi 4775360 emb AJ133734.1 HSA133734	Homo sapiens HCN2 gene,...	843	0.0		
gi 2979528 gb AC004449.1 AC004449	Homo sapiens chromosome 1...	843	0.0		
gi 33312349 gb AF421883.1	Oncorhynchus mykiss hyperpolariz...	828	0.0		
gi 26100858 dbj AK082719.1	Mus musculus 0 day neonate cere...	749	0.0		
gi 26328056 dbj AK032225.1	Mus musculus adult male olfacto...	749	0.0		
gi 7407648 gb AF247452.1	Rattus norvegicus hyperpolarizati...	749	0.0		
gi 3242243 emb AJ225124.1 MMJ225124	Mus musculus mRNA for h...	749	0.0		
gi 6680190 ref NM_008227.1	Mus musculus hyperpolarization-...	749	0.0		
gi 24657642 gb BC039156.1	Mus musculus, Similar to hyperpo...	749	0.0		
gi 16758501 ref NM_053685.1	Rattus norvegicus hyperpolariz...	749	0.0		
gi 6754167 ref NM_010408.1	Mus musculus hyperpolarization-...	702	0.0		
gi 3242241 emb AJ225123.1 MMJ225123	Mus musculus mRNA for h...	702	0.0		
gi 2708315 gb AF028737.1 AF028737	Mus musculus brain cyclic...	702	0.0		
gi 7407644 gb AF247450.1	Rattus norvegicus hyperpolarizati...	662	0.0		
gi 16758107 ref NM_053375.1	Rattus norvegicus hyperpolariz...	662	0.0		

gi 20380241 gb BC028024.1	Homo sapiens hyperpolarization a...	616	e-173	
gi 3168873 gb AF064876.1 AF064876	Homo sapiens ion channel ...	519	e-144	
gi 28629105 gb AF488549.1	Homo sapiens hyperpolarization a...	502	e-138	
gi 32698745 ref NM_021072.1	Homo sapiens hyperpolarization...	502	e-138	
gi 16550669 dbj AK055840.1	Homo sapiens cDNA FLJ31278 fis,...	500	e-138	
gi 13346928 gb AF168122.2 AF168122	Oryctolagus cuniculus uO...	479	e-131	
gi 4775358 emb AJ133732.1 HSA133732	Homo sapiens HCN2 gene,...	469	e-128	
gi 12852741 dbj AK014722.1	Mus musculus 0 day neonate head...	469	e-128	
gi 4775356 emb AJ133730.1 HSA133730	Homo sapiens HCN2 gene,...	409	e-110	
gi 12025616 gb AC005559.2 AC005559	Homo sapiens chromosome ...	409	e-110	
gi 24431920 gb AC124407.4	Mus musculus BAC clone RP24-389C...	342	2e-90	
gi 16905311 gb AC009660.15	Homo sapiens chromosome 15, clo...	322	1e-84	
gi 18449993 gb AC068397.6	Homo sapiens chromosome 15, clon...	322	1e-84	
gi 4775359 emb AJ133733.1 HSA133733	Homo sapiens HCN2 gene,...	317	7e-83	
gi 4775355 emb AJ133729.1 HSA133729	Homo sapiens HCN2 gene,...	301	3e-78	
gi 38229393 gb AC110530.10	Mus musculus chromosome 9, clon...	297	5e-77	
gi 4775357 emb AJ133731.1 HSA133731	Homo sapiens HCN2 gene,...	290	1e-74	
gi 15870547 emb AJ326153.1 HSA326153	Homo sapiens genomic s...	276	1e-70	
gi 37693438 emb BX119923.12	Zebrafish DNA sequence from cl...	228	4e-56	
gi 37718626 emb BX284682.7	Zebrafish DNA sequence from clo...	214	5e-52	
gi 30722340 emb AL713999.28	Human DNA sequence from clone ...	201	5e-48	
gi 33355924 gb AY280847.1	Panulirus argus hyperpolarizatio...	191	4e-45	
gi 15875185 emb AJ330767.1 HSA330767	Homo sapiens genomic s...	155	5e-34	
gi 3970749 emb AJ012664.1 HVI012664	Heliothis virescens mRN...	141	5e-30	
gi 3168871 gb AF064875.1 AF064875	Mus musculus ion channel ...	131	4e-27	
gi 28570310 gb AC138520.2	Homo sapiens chromosome 5 clone ...	131	4e-27	
gi 6015988 gb AF155163.1 AF155163	Rattus norvegicus hyperpo...	118	5e-23	
gi 25012386 gb BT001547.1	Drosophila melanogaster RE10840 ...	110	1e-20	
gi 30039173 gb AY253222.1	Cavia porcellus hyperpolarizatio...	104	6e-19	
gi 21956546 gb AC117529.2	Homo sapiens chromosome 5 clone ...	102	2e-18	
gi 6015990 gb AF155164.1 AF155164	Rattus norvegicus hyperpo...	101	8e-18	
gi 23266274 gb AC126777.2	Homo sapiens chromosome 5 clone ...	89	3e-14	
gi 17402770 gb AC099514.2	Homo sapiens chromosome 5 clone ...	89	3e-14	
gi 31198194 ref XM_308045.1	Anopheles gambiae ENSANGP00000...	78	8e-11	
gi 30039171 gb AY253221.1	Cavia porcellus hyperpolarizatio...	72	4e-09	
gi 4803849 emb AJ133727.1 HSA133727	Homo sapiens HCN2 gene,...	70	2e-08	
gi 6015992 gb AF155165.1 AF155165	Rattus norvegicus hyperpo...	70	2e-08	
gi 4775354 emb AJ133728.1 HSA133728	Homo sapiens HCN2 gene,...	66	2e-07	
gi 6015998 gb AF155168.1 AF155168	Oryctolagus cuniculus hyp...	59	5e-05	
gi 33355926 gb AY280848.1	Apis mellifera hyperpolarization...	57	2e-04	
gi 27977186 gb AY192562.1	Cavia porcellus hyperpolarizatio...	57	2e-04	
gi 6016002 gb AF155170.1 AF155170	Oryctolagus cuniculus hyp...	57	2e-04	
gi 6015994 gb AF155166.1 AF155166	Rattus norvegicus hyperpo...	57	2e-04	
gi 12003345 gb AF211837.1 AF211837	Mus musculus hyperpolari...	55	7e-04	
gi 6016000 gb AF155169.1 AF155169	Oryctolagus cuniculus hyp...	51	0.011	
gi 38198225 dbj AP004770.2	Oryza sativa (japonica cultivar...	43	2.2	
gi 546583 gb S69800.1 S69800	OTK4=peptidyl-prolyl cis-trans...	43	2.2	
gi 546581 gb S69815.1 S69815	OTK4=peptidyl-prolyl cis-trans...	43	2.2	
gi 13677163 gb AC008073.4	Homo sapiens BAC clone RP11-507M...	41	8.4	
gi 12963276 gb AF322070.1 AF322070	Homo sapiens FK506-bindi...	41	8.4	
gi 965467 gb L37086.1 HUMFK506B	Homo sapiens FK-506 binding...	41	8.4	
gi 33639324 emb BX569695.1	Synechococcus sp. WH8102 comple...	41	8.4	
gi 30983667 gb AY223816.1	Homo sapiens Cohen syndrome 1 pr...	41	8.4	


<a href="#">gi 30983665 gb AY223815.1 </a>	Homo sapiens Cohen syndrome 1 pr...	<a href="#">41</a>	8.4	
<a href="#">gi 30983663 gb AY223814.1 </a>	Homo sapiens Cohen syndrome 1 pr...	<a href="#">41</a>	8.4	
<a href="#">gi 35493712 ref NM_017890.3 </a>	Homo sapiens Cohen syndrome 1 ...	<a href="#">41</a>	8.4	
<a href="#">gi 35493700 ref NM_152564.3 </a>	Homo sapiens Cohen syndrome 1 ...	<a href="#">41</a>	8.4	
<a href="#">gi 35493718 ref NM_184042.1 </a>	Homo sapiens Cohen syndrome 1 ...	<a href="#">41</a>	8.4	

Alignments

Get selected sequences

Select all

Deselect all

☐ [gi|4996893|gb|AF065164.2|AF065164](#)  Homo sapiens hyperpolarization-activated, channel 2 (HCN2) mRNA, complete cds  
Length = 3372

Score = 2636 bits (1366), Expect = 0.0  
Identities = 1428/1449 (98%), Gaps = 19/1449 (1%)  
Strand = Plus / Plus

Query: 800 cagtgggaggagatcttccacatgacctatgacctggcca-cgcggtgatgaggatctgc 858  
|||||  
Sbjct: 1080 cagtgggaggagatcttccacatgacctatgacctggccagcgcggtgatgaggatctgc 1139

Query: 859 aatctcatcagcatgatgctgctgctctgccactgggacggctgcctgcagttcctggtg 918  
|||||  
Sbjct: 1140 aatctcatcagcatgatgctgctgctctgccactgggacggctgcctgcagttcctggtg 1199

Query: 919 cctatgctgcaggacttcccgcgcaactgctgggtgtccatcaatggcatggtgaaccac 978  
|||||  
Sbjct: 1200 cctatgctgcaggacttcccgcgcaactgctgggtgtccatcaatggcatggtgaaccac 1259

Query: 979 tcgtggagtgaactgtactccttcgcactcttcaaggccatgagccacatgctgtgcac 1038  
|||||  
Sbjct: 1260 tcgtggagtgaactgtactccttcgcactcttcaaggccatgagccacatgctgtgcac 1319

Query: 1039 gggtagcgccggcaggcgcccagagcatgacggacatctg-ctgacctgctcagcatg 1097  
|||||  
Sbjct: 1320 gggtagcgccggcaggcgcccagagcatgacggacatctggctgacctgctcagcatg 1379

Query: 1098 attgtgggtgccacctgctacgcatgttcacggccacgccaactgccctcatccagtcg 1157  
|||||  
Sbjct: 1380 attgtgggtgccacctgctacgcatgttcacggccacgccaactgccctcatccagtcg 1439

Query: 1158 ctggactcctcgcgccgagcagtagcaggaagtagcaggtggagcagtagcatgtcc 1217  
|||||  
Sbjct: 1440 ctggactcctcgcgccgagcagtagcaggaagtagcaggtggagcagtagcatgtcc 1499

Query: 1218 ttccacaagctgccagctgacttccgccagaagatccacgactactatgagcaccgttac 1277

|||||  
Sbjct: 1500 ttccacaagctgccagctgacttccgccagaagatccacgactactatgagcaccgttac 1559

Query: 1278 cagggcaagatgtttgacgaggacagcatcctgggagctcaacgggcccctgcgggag 1337  
|||||  
Sbjct: 1560 cagggcaagatgtttgacgaggacagcatcctgggagctcaacgggcccctgcgggag 1619

Query: 1338 gagatcgtcaacttcaactgccggaagctggtggcctccatgccgctgttcgccaacgcc 1397  
|||||  
Sbjct: 1620 gagatcgtcaacttcaactgccggaagctggtggcctccatgccgctgttcgccaacgcc 1679

Query: 1398 gaccccaacttcgtcacggccatgctgaccaagctcaagttcgaggtcttcagccgggt 1457  
|||||  
Sbjct: 1680 gaccccaacttcgtcacggccatgctgaccaagctcaagttcgaggtcttcagccgggt 1739

Query: 1458 gactacatcatccgcgaaggcaccatcggaagaagatgtacttcatccagcacggcgtg 1517  
|||||  
Sbjct: 1740 gactacatcatccgcgaaggcaccatcggaagaagatgtacttcatccagcacggcgtg 1799

Query: 1518 gtcagcgtgctcactaagggaacaaggagatgaagctgtccgatggctcctacttcggg 1577  
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Sbjct: 1800 gtcagcgtgctcactaagggaacaaggagatgaagctgtccgatggctcctacttcggg 1859

Query: 1578 gagatctgcctgctcaccggggccgccgcacggcgagcgtgcgggctgacacctactgc 1637  
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Sbjct: 1860 gagatctgcctgctcaccggggccgccgcacggcgagcgtgcgggctgacacctactgc 1919

Query: 1638 cgcctctattcgctgagcgtggacaacttcaacgaggtgctggaggagtaccccatgatg 1697  
|||||  
Sbjct: 1920 cgcctctattcgctgagcgtggacaacttcaacgaggtgctggaggagtaccccatgatg 1979

Query: 1698 cggcgcgcccttcgagacggtggccatcgaccgcctggaccgcatcggcaagaagaattcc 1757  
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Sbjct: 1980 cggcgcgcccttcgagacggtggccatcgaccgcctggaccgcatcggcaagaagaattcc 2039

Query: 1758 atcctcctgcacaaggtgcagcatgacctcaactcgggcgtattcaacaaccaggagaac 1817  
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Sbjct: 2040 atcctcctgcacaaggtgcagcatgacctcaactcgggcgtattcaacaaccaggagaac 2099

Query: 1818 gccatcatccaggagatcgtcaagtacgaccgcgagatggtgcagcaggccgagctgggt 1877  
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Sbjct: 2100 gccatcatccaggagatcgtcaagtacgaccgcgagatggtgcagcaggccgagctgggt 2159

Query: 1878 ct-----cctcttcccgccgcccgcggccgcaggtcacctcggccatcgca 1928  
| |||||  
Sbjct: 2160 cagcgcggtgggcctcttcccgccgcccgcggccgcaggtcacctcggccatcgcc 2219

Query: 1929 agcgcggggcgctgcagcaggcgggcccatgagcttctgcccgcaggtggcgcgggccgc 1988



Score = 62.4 bits (32), Expect = 3e-06  
Identities = 34/35 (97%)  
Strand = Plus / Plus

Query: 308 tgggtgttgaacttccgcaccggcattgtgaccgag 342  
|||||  
Sbjct: 811 tgggtgttgaacttccgcaccggcattgtgatcgag 845

Score = 62.4 bits (32), Expect = 3e-06  
Identities = 32/32 (100%)  
Strand = Plus / Plus

Query: 651 gtggtctcggacaccttcttctcatggacct 682  
|||||  
Sbjct: 780 gtggtctcggacaccttcttctcatggacct 811

Score = 62.4 bits (32), Expect = 3e-06  
Identities = 34/35 (97%)  
Strand = Plus / Plus

Query: 461 cccgcgcgcggcgagcacggccaagggcagcccga 495  
|||||  
Sbjct: 296 cccgggcgcggcgagcacggccaagggcagcccga 330

Score = 60.5 bits (31), Expect = 1e-05  
Identities = 31/31 (100%)  
Strand = Plus / Plus

Query: 770 accaagatcctcagcctcctgcggctgctgc 800  
|||||  
Sbjct: 1020 accaagatcctcagcctcctgcggctgctgc 1050

Score = 60.5 bits (31), Expect = 1e-05  
Identities = 31/31 (100%)  
Strand = Plus / Plus

Query: 741 agaagggcattgactccgaggtctacaagac 771  
|||||  
Sbjct: 961 agaagggcattgactccgaggtctacaagac 991

Score = 60.5 bits (31), Expect = 1e-05  
Identities = 31/31 (100%)

Strand = Plus / Plus

Query: 592 acttcaggttctactgggacttcacccatgct 622  
|||||  
Sbjct: 661 acttcaggttctactgggacttcacccatgct 691

Score = 60.5 bits (31), Expect = 1e-05  
Identities = 31/31 (100%)  
Strand = Plus / Plus

Query: 217 gcgggggcctggatcatccacccgtacagcg 247  
|||||  
Sbjct: 630 gcgggggcctggatcatccacccgtacagcg 660

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 428 gcctctcacgcctgatccgctacatccatc 457  
|||||  
Sbjct: 1051 gcctctcacgcctgatccgctacatccatc 1080

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 398 cggcacgcgccctgcgcatcgtgcgcttca 427  
|||||  
Sbjct: 991 cggcacgcgccctgcgcatcgtgcgcttca 1020

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 711 cgtggttcgtggtggacttcgtgtcctcca 740  
|||||  
Sbjct: 901 cgtggttcgtggtggacttcgtgtcctcca 930

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 338 ccgagaagatcaagaagaagtatctgcgca 367  
|||||



Sbjct: 871 ccgagaagatcaagaagaagtatctgcgca 900

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 622 tcccagtgggcatcaccttcttcaaggatg 651  
|||||  
Sbjct: 721 tcccagtgggcatcaccttcttcaaggatg 750

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 248 tgctgttcattggtgggaaacctcatcatca 277  
|||||  
Sbjct: 691 tgctgttcattggtgggaaacctcatcatca 720

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 188 cgctgcggatgttcggcagccagaaggccg 217  
|||||  
Sbjct: 571 cgctgcggatgttcggcagccagaaggccg 600

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 555 cgctcctgcagccggcgctcaacaagttct 584  
|||||  
Sbjct: 541 cgctcctgcagccggcgctcaacaagttct 570

Score = 58.6 bits (30), Expect = 5e-05  
Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 93 acagctcgtgcggccgccccggcaccgccg 122  
|||||  
Sbjct: 271 acagctcgtgcggccgccccggcaccgccg 300

Score = 58.6 bits (30), Expect = 5e-05

Identities = 30/30 (100%)  
Strand = Plus / Plus

Query: 1 cggctccgctccgcactgcccggcgcgcgc 30  
|||||  
Sbjct: 1 cggctccgctccgcactgcccggcgcgcgc 30

Score = 50.9 bits (26), Expect = 0.011  
Identities = 26/26 (100%)  
Strand = Plus / Plus

Query: 129 cccaaggtgtcgttctcgtgccgcgcg 154  
|||||  
Sbjct: 396 cccaaggtgtcgttctcgtgccgcgcg 421

Score = 47.0 bits (24), Expect = 0.15  
Identities = 24/24 (100%)  
Strand = Plus / Plus

Query: 496 gcagccccgcggggcccgaggcc 519  
|||||  
Sbjct: 361 gcagccccgcggggcccgaggcc 384

 >gi|4775348|emb|AJ012582.1|HSA012582  Homo sapiens mRNA for hyperpolarization  
Length = 3459

Score = 2630 bits (1363), Expect = 0.0  
Identities = 1427/1449 (98%), Gaps = 19/1449 (1%)  
Strand = Plus / Plus

Query: 800 cagtgggaggagatcttccacatgacctatgacctggcca-cgcggtgatgaggatctgc 858  
|||||  
Sbjct: 1098 cagtgggaggagatcttccacatgacctatgacctggccagcgcggtgatgaggatctgc 1157

Query: 859 aatctcatcagcatgatgctgctgcttgcactgggacggctgcctgcagttcctggtg 918  
|||||  
Sbjct: 1158 aatctcatcagcatgatgctgctgcttgcactgggacggctgcctgcagttcctggtg 1217

Query: 919 cctatgctgcaggacttcccgcgcaactgctgggtgtccatcaatggcatggtgaaccac 978  
|||||  
Sbjct: 1218 cctatgctgcaggacttcccgcgcaactgctgggtgtccatcaatggcatggtgaaccac 1277

Query: 979 tcgtggagtgaactgtactccttcgcactcttcaaggccatgagccacatgctgtgcatc 1038  
|||||  
Sbjct: 1278 tcgtggagtgaactgtactccttcgcactcttcaaggccatgagccacatgctgtgcatc 1337